Content Equivalence Analysis of Health News Translation: A Bakerian Approach

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Abstract—The primary purpose of the present paper is to investigate *content equivalence* in the English to Persian translation of General Health News based on Baker's model. A descriptive qualitative study was designed and 10 texts from English and Farsi versions of *Iran Newspaper* were randomly selected. To assess the translation quality of the selected texts, the researcher compared the original and translated texts at word, phrase and sentence level and tabulated the obtained data and estimated the frequency and percentage of *translation inadequacies*. The results revealed that most errors in the English translations were rooted in the *textual domain* where the translators have misunderstood the general concept of the source context. This was followed by *semantic errors*. The third place was given to the errors in the *pragmatic domain* which mainly addressed the purpose and meaning of the concepts presented in the source language. The least frequently occurred errors were related to grammatical errors which mainly covered prepositions and tenses. Research on *content equivalence*, in general, can help experts assess the quality of the translated text. Research on content equivalence of particular texts can lead to detecting translation problems, translation errors and translation inadequacies in that particular field.

Index Terms—semantic equivalence, grammatical equivalence, pragmatic equivalence, textual equivalence, content equivalence, health news, Mona Baker

I. INTRODUCTION

Finding the proper *equivalence* is a concern of every translation process as "the discipline of translation studies suggests that full equivalence in translation between languages is rare" (Forutanian & Chalak, 2013, p.2). However, finding the proper *equivalence* in the process of translation of General Health News seems to be much more demanding, as accuracy of language is crucial in health language (Taylor 2005). Inappropriate translation of such texts can endanger many lives henceforth it is of utmost importance that translators of health texts "avoid jargon, be accurate in what they say, and be careful with abbreviations and acronyms" (Taylor, 2005, p.105).

The main concern is how to translate *non-equivalence* health technical terms when such terms do not have *equivalence* in the target language due to the fact that mistranslation may lead to misunderstanding of the whole content. The unlucky point is that, many pieces of Health News are translated by non-professional translators working part-time in the newspapers and as they would like to translate as many pages as possible in a relatively short period of time, they employ *deletions* and *additions* (Taylor 2005). Such translation strategies for rendering scientific and technical health terminology decreases the quality of the translated text and above all may lead to the lack of transference of the main content encoded in the ST.

The present study aims to investigate *content equivalence* in General Health News based on Bakerian (2010) model of *equivalence* which considers *content equivalence* in terms of textual, semantic, grammatical, and pragmatic equivalence. The research means to find the extent to which semantic, grammatical, textual and pragmatic equivalences are accurately rendered in English to Persian translation of General Health News? What are the most-frequently-used and the least-frequently-used equivalences in the English to Persian translation of General Health News? And which translation paradigm is followed in the English to Persian translation of general health news texts?

In this regard the study is delimited to the texts of Health News of IRNA News Agency and *Iran Newspaper* rather than including different news agencies and newspapers. Moreover, the research is delimited to *content equivalence* and four aspects of Baker's (2010) model (semantic, grammatical, textual, and pragmatics).

II. THEORETICAL FRAMEWORK

The idea of *equivalence* structures the premises of many theories of translation and has been one of the controversial issues in recent decades as it helps both the proper translation of a text and the proper assessment of the translated text. As House (2015) asserts "a theory of translation is not possible without a reflection on the role of one of its core concepts, i.e. equivalence in translation and it is the conceptual basis of translation quality assessment" (p. 1).

Numerous linguistic scholars recognized the importance of seeking the *proper equivalence* during translation process. Halverson (1997) has defined equivalence as the relation of two existences and the relation is described by the number of potential properties of one of the similarities. House (1997) states the notion of equivalence is the conceptual basis of translation. Catford (1996) states that finding TL equations, are the main problem of translation and the main task of translation theory is to determine the nature and conditions of equivalence. Pim (2017) argues that translation equivalence is the similarity between a word (or expression) in one language and its translation in another. This similarity results from overlapping ranges of reference. Hence, it could be concluded that a translation equivalent is a corresponding word or expression in another language. Though Pym's (2017) definition of translation equivalence is acceptable, it seems formalistic as it does not cover various syntactic, semantic, pragmatic, and textual strata of language. Baker's definition and theories of equivalence (2010) which encompass all these areas seem to be more comprehensive than the other previously suggested models.

Baker offers a more detailed list of conditions upon which the concept of equivalence can be defined (Leung 2016). Her model of equivalence was first proposed in 1992. She explored the concept of equivalence at different levels in relation to the translation process, including various aspects of translation. She also integrated the linguistic and communication approach. Baker (1992) stipulates that detecting equivalents in translation includes decoding the source language (SL) text and trying to discover an appropriate equivalent in the Target Language (TL) text. She further explains that equivalent dominates over all linguistic units such as words, morphemes, proverbs, phrases, idioms, and clauses.

To be more precise, she distinguishes between a word-level and above-world level equivalence. Adopting a bottom-up approach, she began with simple terms and continued with a bottom-up approach with grammatical, textual, semantic and practical equations. Baker puts emphasis on the significance of individual words in the process of translation because words as single units draw the translator's attention at the first step. Baker argues that words are of a complex nature so that sometimes a single word in different languages may have different meanings. Therefore, parameters such as number, gender, and stress must be taken into account when translating a word. In the same line of argumentation, Baker (1992) declares that translation equivalence can be explored through grammatical, textual, semantic and pragmatic equivalence. These factors come to shape *content equivalence*.

Baker defines *grammatical equivalence* as diversity of grammatical categories across languages is a significant factor and Grammar rules tend to vary across languages, and this can cause problems in communication. In fact, different SL and TL grammatical structures may lead to dramatic changes in the way information or messages are transmitted. These changes may cause the TL translator to add or delete information in the TT due to the absence of specific command-line devices in the TL itself. Among these grammatical tools that may lead to translation problems, Baker focuses on number, stress, sound, person, and gender (Baker 1992).

Pragmatic equivalence refers to consequences and strategies of avoidance during the translation process. Consequences are not about what is explicitly said rather they are about what is implied. Therefore, the translator needs to make explicit the implied meanings in translation in order to transfer the ST message. The translator must translate the author's intentions into another culture so that the TC reader can fully and clearly understand the meaning (Baker 1992).

Semantic equivalence can be created at word level or above word level. In a bottom-up approach, semantic equivalence is the first element to be considered by the translator. In fact, when interpreting ST analysis, the translator considers words as single units. Baker provides the definition of a word because a single word in different languages may have different meanings. She considers that word is a more complex unit or a new form. This means that the translator must take into account a number of factors when analyzing a single word such as number, gender, and stress (Baker 1992).

Textual equivalence refers to the equivalence of a SL text with a TL text in terms of consistency and information. It provides useful guidance for understanding and analyzing ST Offers. And it can guide the translator in producing a coherent text for TC audiences in a particular context. The translator's task is to choose whether or not to maintain coherent links. His choice is based on three main factors: the target audience, the translation target, and the type of text (Baker 1992).

Baker's analysis on word level is particularly clear and easy to comprehend. Many linguistic scholars and researchers support Baker's theory of equivalence at the word level. Theorist Behar (2007) acknowledges the importance of level 2 quality. Leonardi (2000) introduces Baker's theory as "an extremely interesting discussion of the notion of equivalence" (p. 7). Leonardi is on the belief that Baker's approach puts together the linguistic and the communicative approach. Ghadi (2009), in "Translation Equivalence and Different Theories", addresses Baker's inequality at the word level and considers it as the basic theory before addressing the inequality between English and Persian. In his research, Baker's complete inequality at word level with other approaches has been thoroughly introduced and analyzed as a way of validating this theory. A host of other theorists, researchers, and linguists have emphasized the importance of Baker's

theories. In the following the applicability of her content equivalence on quality assessment of General Health News translation is studied.

III. METHODS

A. Corpora

Ten Health News texts from *Iran Newspaper* which were translated from English to Farsi from January to February 2018 comprise the corpora of this study. The minimum length of texts was 10 lines (150 words). The texts mainly provided the readers with recent information concerning the newly released health issues, especially the information people are in need of. The texts covered various concepts such as diabetics, genetic data, smart Nano-medicine for curing cancer cells, crying clubs, seasonal depression, heart attack, top fashion and beauty choices that can make you look older, immune systems, old infections to keep you healthy, and ways to prevent acid reflux.. The texts were selected from *Iran Newspaper*, because this newspaper is one of oldest and most reliable newspapers in Iran. Moreover, *Iran Newspaper* releases daily and breaking news about health problems. The newspaper also triumphs on a large number of audiences among scholars and experts in Iran.

B. Procedure

Ten texts of Health News were randomly selected from *Iran Newspaper*. The researcher compared and contrasted the original English texts versus their Farsi translations to find translation *non-equivalences*. Next two raters who were professional translators confirmed the results. To score the translations, the raters compared and contrasted the text items based on Baker's model of translation *equivalence* (2010) which considers *equivalence* at semantic, grammatical, textual, and pragmatics levels. The number and category of errors for each text were specified and tabulated; the less the number of errors the better the translation. Tables 3.2.1 and 3.2.2 clarify the procedure.

TABLE 3.2.1
PROCURER IN PRACTICE

English Text	Persian Text
Five Things Everyone Needs To Know About Seasonal Depression For me, winter is not the most wonderful time of the year. In fact, it's the worst. The biting cold, the cloudy days, being stuck inside - every winter, I suffer seasonal depression and I'm not alone. Almost 10 million Americans suffer seasonal depression, otherwise known as seasonal affective disorder, each year. This is what you need to know.	**همه درباره افسردگی فصلی نیاز به دانستن آن دارند پنج چیز که** برای من، زمستان فوق العاده ترین زمان از سال نیست. در واقع فصل بعدی یعنی پاییزبسیار از نظر افسردگی قابل توجه است. فصل پاییز را همگان به نام فصل هزار رنگ میشناسند، اما همین فصل رنگارنگ به دلیل کوتاهی روز و بلندی شب فصلی افسرده قلمداد میشود.سرمای گزنده و روزهای ابری.تقریبا 10 میلیون آمریکایی از افسردگی فصلی رنج می برند ، در غیر این صورت ازبیماری آن ها به عنوان اختلال خلقی فصلی نام برده می شود.در این خصوص شما به دانستن نکات زیر نیازدارید.
1. It's not funny. Seasonal depression is not the reason for someone's bad mood. "It's cloudy so the boss is bitchy." This is a severely false narrative. Depression is real and manifests itself in numerous ways. It's nothing to joke about. It's a serious health problem.	**1. این خنده دار نیست.** افسردگی فصلی دلیل خلق و خوی بد کسی نیست. "هوا ابری است به طوری که رئیس سرگردان است." این روایت به شدت نادرست است. افسردگی افراد واقعی است و خود را به روش های متعدد نشان می دهد. این امرچیزی شوخی بردار نیست. این یک مشکل بهداشتی جدی است. افسردگي فصلي نوعي افسردگي است كه هر سال در يك زمان معين در فرد بروز ميكند.
2. It's not just about bad weather. Often, SAD is just a cyclical, seasonal accent to clinical depression and bipolar disorder.	**2. فقط آب و هوای بد افسردگی راجاد نمیکند.** فقط مشکلی فصلی و کلینیکی است. در حقیقت این بیماری نوعی افسردگی SADاغلب اوقات بالینی و اختلال دو قطبی است.
3. You can treat SAD. Light therapy is considered the gold standard for treating SAD. This method gives people artificial sunlight and can help correct circadian rhythms and create feel-good hormones. In addition to light therapy, other types of depression treatments may be needed.	**را درمان کنید.3SAD. شما می توانید** است. تحقیقات اخیر نشان میدهد پرتو درمانيSADنور درمانی استاندارد طلایی برای درمان تا حد زیادي میتواند در درمان بيماري موثر واقع شود. گاهي اوقات داروهاي ضدافسردگي نیز ـ هم در کنار پرتو درماني و هم به تنهايي ـ مورد استفاده قرار ميگيرد. همچنین گذراندن روز ، در زیر نور خورشید نیز میتواند به بهبود بیمار کمک کند.
4. SAD can be debilitating. Depression isn't just about feeling sad. It can be debilitating. Even the most mundane, simple things can feel like an incredible chore.	**می تواند ناتوان کننده باشد.4SAD.** نه تنها باعث ایجاد احساس غم می شود، بلکه می تواند ناتوان کننده باشد. حتی SADافسردگی پیش یا افتاده ترین چیزهای کوچک و ساده می توانند بسیار سخت و طاقت فرسا بوده و به شکلی باور نکردنی فرد را ناتوان نمایند.
5. SAD needs to be taken seriously. It's important to take it as seriously as you would any other mental health condition, because it's a serious condition. It's not some trivial problem. It's part of a much larger disorder.	**باید جدی گرفته شود.5.SAD** همچون دیگر بیماری های روانی باید حتما" این بیماری را جدی گرفت چرا که سلامت روان افراد را نشانه گرفته است. اگر فرد داراي برخي از علائم این بيماري باشد، بهتر است به پزشك متخصص مراجعه کرده و مورد آزمایش قرار بگیرد.
245 words	404 words

Source text	Target text	Error Status	Category
it's the worst	----	Omission	semantic
…..being stuck inside	---	Global error	semantic
- every winter,	فصل پاییز را همگان به نام فصل هزار رنگ . میشناسند،	addition	textual
--------- ------------------------- ----------------	در واقع فصل بعدی یعنی پاییزبسیار از نظر افسردگی . قابل توجه است. فصل پاییز را همگان به نام فصل هزار رنگ میشناسند، اما همین فصل رنگارنگ به دلیل کوتاهي روز و بلندي شب فصلي افسرده قلمداد میشود	addition	textual
…otherwise known as seasonal affective disorder, each year.	در غیر این صورت ازبیماری آن ها به عنوان اختلال خلقی فصلی نام برده می شود.	deletion	semantic

It's not funny.	این خنده دار نیست	Local error	grammatical
It's cloudy so the boss is bitchy	هوا ابری است به طوری که رئیس سرگردان است.	Global error	grammatical
It's a serious health problem.	این یک مشکل بهداشتی جدی است	Local error	Semantic /textual
---------------	افسردگي فصـلي نوعي افسردگي است كه هر سال در يك زمان معين در فرد بروز ميكند	addition	textual
This method gives people artificial sunlight and can help correct circadian rhythms and create feel-good hormones.	تحقيقات اخير نشان ميدهد پرتو درماني تا حد زيادي ميتواند در درمان بيماري موثر واقع شود.	Misinterpretation /reduction	textual
Depression isn't just about feeling sad.	افسردگی SADمی غم احساس ایجاد باعث تنها نه شود،	Global error	grammatical
Because it's a serious condition.	چرا که سلامت روان افراد را نشانه گرفته است	Local error	textual
Even the most mundane, simple things can feel like an incredible chore.	حتی پیش پا افتاده ترین چیز های کوچک و ساده می توانند بسیار سخت و طاقت فرسا بوده و به شکلی باور نکردنی فرد را ناتوان نمایند.	Addition/local error	semantic
Because it's a serious condition.	چرا که سلامت روان افراد را نشانه گرفته است	Addition/local error	textual
It's not some trivial problem. It's part of a much larger disorder.	اگر فرد داراي برخي از علائم اين بيماري باشد، بهتر است به پزشك متخصص مراجعه كرده و مورد آزمايش قرار بگيرد.	Mistranslation Global error	pragmatic
-------------------	علائم این بیماري	addition	textual

The mistranslated phrases or words are specified in the table. Contrastive analysis of the text based on Baker's model by the two experts is presented in Table 3.2.

TABLE 3.2.2
CRITERIA OF BAKER'S CONTENT EQUIVALENCE ANALYSIS

Equivalence Type	Description	Rtaer1	Rater2	Mean
Semantic	Meaning deviation at word level and above word level, when translating from one language into another.	5	6	
Grammatical	Diversity of grammatical categories across languages is observed.	3	3	
Textual	The equivalence between a SL text and a TL text in terms of information and cohesion is not met.	8	8	
Pragmatic	Something implied is not translated or mistranslated.	1	0	

The two rates almost agreed on the number and types of errors. The translated text had no pragmatic error. However, the semantic problems could not be ignored as both experts marked 5 to 6 semantic errors. The raters marked 3 grammatical errors and 8 textual errors. It can be concluded that the translator could not present a grammatically well-formed, fluent, and organizationally acceptable translation of the text from English to Farsi. Semantically speaking the text requires editing. It is worth mentioning that the English text has 245 words in 27 sentences, while the Farsi translation includes 404 words and 31 sentences. It seems that the translator preferred a target oriented translation with high degree of naturalness, but has mistranslated, deleted or added 17 items.

IV. RESULTS

Translation assessment based on the above-mentioned procedure was carried out on ten texts to reach the answers of the previously formulated research questions.

A. Research Question One

To what extent are semantic, grammatical, textual and pragmatic equivalences accurately rendered in English to Persian translation of General Health News?

Table 4.11 indicates the number of all errors in the selected texts. According to the table, it can be indicated that *equivalence* is a concept that needs further attention in English to Persian translation of Health News.

TABLE 4.11
EQUIVALENCE ANALYSIS IN TEN TEXTS

Type of Equivalence	No. of passages										Total Mean
	1	2	3	4	5	6	7	8	9	10	
Semantic	9	14	10.5	4	7	5.5	9	11	8.5	8	8.65
Grammatical	3.5	4	5	2.5	6.5	2.5	6.5	9.5	7	7	5.4
Textual	9.5	18.5	11.5	4.5	10.5	3	7.5	5.5	10.5	10	9.1
Pragmatic	6	4.5	7	1	7	1.5	10	15	12.5	13	7.75

As it is evident, the number of *textual errors* outweighs the number of other types of errors. This is followed by semantic, pragmatic, and grammatical errors, respectively. Accordingly it can be concluded that Health News have been translated moderately weak as the total number of all types of errors is somehow high. Figure 4.11 represents a visual

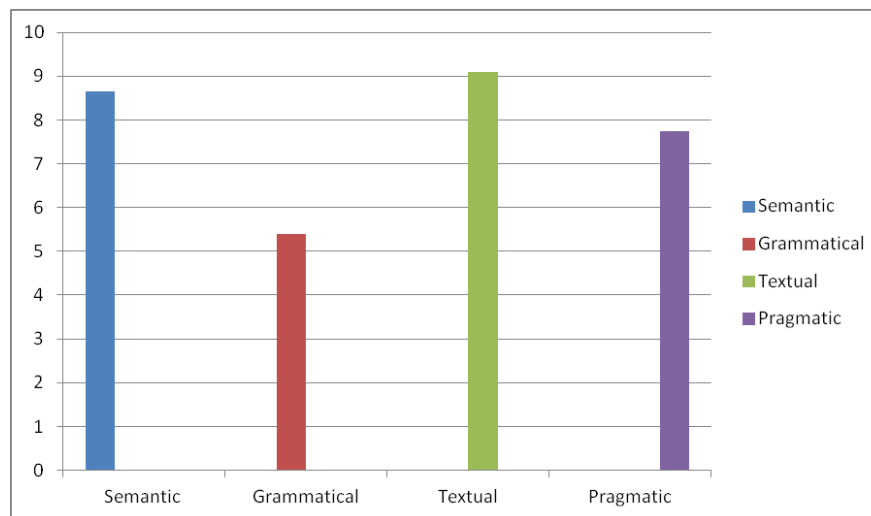model of the analysis conducted for the 10 selected texts.

Figure 4.11, Analysis of 10 texts of the study

B. Research Question Two

What are the most-frequently-used and the least-frequently-used equivalences in the English to Persian translation of General Health News?

As indicated in Table 4.11 and Figure 4.11, *grammatical equivalence* seems to have received more attention in comparison with other types of equivalence (m = 5.4); however, this is only in comparison with other types of equivalence such as semantic, textual, and pragmatic. It implies that equivalence is a translation problem in Health News.

C. Research Question Three

Which translation paradigm is followed in the English to Persian translation of General Health News?

As indicated, the number of *textual errors* was higher than the other types of errors (m = 9.1). The next error *semantic error* with a mean of 8.65. *Pragmatic equivalence* comes next with a mean of 7.75 which is somehow high as Health News are expected to be translated with more precision. *Grammatical equivalence errors* seem to be less than other types (m = 5.4).

V. DISCUSSION AND FINDINGS

The Analysis of the data revealed that the most frequent type of error in the English to Farsi translation of Health News was *textual equivalence*. According to Baker (2010), this category of error includes the *situation* in which equivalence between a SL text and a TL text in terms of information and cohesion is not met. The second problematic issue for the Persian translators of English, was *semantic error* with a mean of 8.65 which was followed by the *pragmatic equivalence error* which included *omissions* or *mistranslations* in the target text. The least frequent type of error was *grammatical equivalence*. Although, the mean was not low, in comparison with other categories, *grammatical equivalence* seemed to receive the lowest equivalence error with a mean of 5.4.

The findings are in line with some of the previously reported research in the domain of Contrastive Analysis (CA) and Error Analysis (EA). Krčmová's (2004) PhD dissertation reported in his book entitled *A contrastive study of non-fiction (expository) texts* in Czech Republic focused on the junior students' translations from English to Czech and like the present study, revealed that most of the EFL learners had *semantic errors* in their translations.

The findings of the present study are also in line with Gile's (2004) study presented in his paper entitled "Translation research versus interpreting research" which concentrated on translation kinship, differences and prospects for partnership. He also found that *semantic errors* were witnessed among the translation of ESL translators in France where the participants were supposed to translate from English to French. It seems that like Iranian students of English the French ESL learners have some semantic problems. Of course, in some of the texts Iranian translators had better performance than in some other ones in terms of semantic issues. The reason might lie in the nature of those texts. The similarity between the results of this study and Gile's (2004) in terms of semantic issues of the translated texts signifies that mastery over lexicon of English, specifically Health Terminology, is not easy. The reason might also be sought in the ability and experience of translators. Novice translators mainly rely on bilingual dictionaries and in many cases they cannot decipher the meaning from the texts and contexts. Few translators use monolingual dictionaries, very few are armed with enough background knowledge to use the words, phrases, idioms, and terms appropriately.

The present study findings can also take support from Keshavarz and Alimadadi Zonoozi's (2011) study reported in

their paper entitled "Manipulation of ideology in translation of political texts". Based on the paper, the most frequently occurred error by Iranian translators of English texts are *pragmatic errors* which might lead to *contextualization errors*. The reason might lie in the lack or shortage of inter-language pragmatic knowledge of Iranian translators and EFL learners. Translators might not be well aware of the content, purpose, and agenda of issues discussed in the text. To clarify the point more, health and healthcare texts are of different genres. As these texts enjoy different difficulty level, the translators dealing with one type necessarily cannot translate the other types well. That is why some texts receive a good score and enjoy high quality while some others are weak in terms of quality.

The findings of the present study are also in line with Mateo's (2015) study which ran a contrastive multimodal analysis of two Spanish translations of a picture book. He also found that semantic errors might ruin the meaning of the surce texts. Though, a lot of translation theories assert that naturalness and equivalent effect are the two significant factors representing a good translation (Munday, 2016; Nida, 2004), we cannot ignore the role of semantic equivalents, especially when technical terms are mistranslated. As technical terms carry meaning and specify an intention, their mistranslation can ruin the text. That is why translators who render from their own language to another one should be well aware of the semantic value of the terms used in the texts.

Some researchers maintain that translation quality assessment is a kind of evaluation that fills the gap between the presented theories under the title of translation studies and the bulky collection of translation produced in daily life (Bernacka, 2012; Cheng, 2014; Mateo, 2015; Munday, 2016). The present study found that translation of health texts from English to Persian does not meet the expectations of the academic people. The present study tried to take a humble step forward by focusing on the very gap mentioned above.

Equivalence assessment, is an effective tool in the hands of professional translators, their clients, translation researchers and trainee translators. Quality is a competitive weapon, i.e. good quality of translation pays off in higher profits, reduces costs and speeds up time-to-market (Pym, Malmkjær, & Plana, 2013). Nerudova (2012) asserts that "without equivalence assessment, improving quality of translation is impossible" (p. 8). Equivalence assessment can provide a way to quantify or qualify a process objectively and also is a means for increasing readers' satisfaction.

A very significant point found in the analyzed translations In error classification, a high percentage of deletions indicates that Persian vocabulary formations rules are different from English. In terms of using discourse markers, while the discourse markers such as *on the other hand, while, whereas, however, nevertheless, mind you, still, yet, in spite of this, irrespective of the fact that, moreover (very formal), furthermore (formal), in addition,* and the like play a significant role in the English texts. English language offers a variety of markers and connectors such as *along with, as well as, and, in addition, moreover, furthermore, accompanied by* and a host of other. The translators should decide which one suits the target text. In fact, as the analyses of the error types revealed Persian translators doing the translation of Persian texts to English have no choice but adding these discourse markers and in many cases their *additions* are not to the point. Most of the times, the translators of the texts had to omit or add some words to the Persian text to present more clarification, because of the lack of appropriate equivalence or the lack of knowledge about the discourse markers and connectors. In fact, deletion and addition are the most frequently occurred errors.

Literal translation is another common error. It again indicates the limited number of discourse markers in Persian. Although trivial, it is proven by the fact that Persian translators have imported many discourse markers from English, directly and without change in their previous experiences and now when they are to translate from Persian to English, they do vise-versa and use a lot of discourse markers which might not be necessary in today's English language. An example is the overuse and misuse of the "*with regard to, subject to the condition that, nevertheless, as well as that, on top of that (informal), another thing is, what is more, and in spite of the fact that".* Munday (2016) implies that when the target text number of words is strangely more than the source text words, it is likely that the translator has not been proficient in the target language as s/he has used a lot of *expansions* and *additions* through employing irrelevant discourse markers and tautologies (p.121).

The results confirmed "translating health text as it sounds is not easy. The diverse text features make this genre a unique context. With regard to markers, technical words and terms, various sources and events that can help the audience understand the message better: "A good translation should be effective and convey the same meaning." (Kiraly, 2014, p.31).

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